

CLAIMS

1. A magnetic head device comprising:
a suspension that is cantilevered and provided with an elastic portion;
5 and
a head main body that glides in contact over or floats while keeping a substantially constant distance from an information recording medium, and is supported at a free end of the suspension;
wherein a first holding portion protruding substantially in parallel to
10 a recording surface of the information recording medium is provided on the head main body,
a second holding portion protruding substantially in parallel to the recording surface of the information recording medium is provided near the free end of the suspension, and
15 the first holding portion and the second holding portion are able to contact each other when the head main body is displaced in at least one direction because of an elastic deformation of the suspension.
2. The magnetic head device according to claim 1, wherein the second
20 holding portion is provided closer to the information recording medium than the first holding portion is.
3. The magnetic head device according to claim 1, wherein a plurality of
25 ones selected from the first holding portion and the second holding portion are placed sequentially in a direction substantially perpendicular to the recording surface of the information recording medium, and the other is placed therebetween.
4. The magnetic head according to claim 1, wherein the first holding
30 portion and the second holding portion both have a flat plate shape.
5. The magnetic head device according to claim 1, wherein one of the first holding portion and the second holding portion has a convex portion, the other has a through hole, and the convex portion is inserted in the through
35 hole when the head main body is displaced in at least one direction.
6. The magnetic head device according to claim 1, wherein one of the

first holding portion and the second holding portion has a through hole, the other has a first convex portion that passes through the through hole with clearance and a second convex portion that is formed at a front end of the first convex portion, and the second convex portion contacts the one holding portion when the head main body is displaced in at least one direction.

7. The magnetic head device according to claim 1, wherein the second holding portion is made of a same material as the suspension and formed integrally with the suspension.

10

8. The magnetic head device according to claim 1, wherein the suspension comprises:

a first elastic portion that is supported by a fastened end,
an intermediary portion that is supported by the first elastic portion
15 and has a rigid body portion made of resin, and
a second elastic portion that is supported by the intermediary portion,
wherein the second holding portion and the rigid body portion are
formed in one piece by molding resin.

20 9. The magnetic head device according to claim 1, wherein the second holding portion is made of resin and integrated with the suspension.

10. The magnetic head device according to claim 1, wherein the first holding portion and the magnetic head main body are formed in one piece.

25

11. A magnetic head device comprising:

a fastening member having a cantilevered arm portion;
a head main body for applying a magnetic field to an information
recording medium; and

30 a suspension that is cantilevered by the fastening member, provided with a supporting portion for connecting and supporting the head main body on a side of a free end and has an elastic portion;

wherein the arm portion comprises a contacting portion, and
the contacting portion contacts the elastic portion so that the elastic
35 portion is deformed elastically when the head main body is located away from the information recording medium.

12. A magnetic head device comprising:
a fastening member having a cantilevered arm portion;
a head main body for applying a magnetic field to an information
recording medium; and
5 a suspension that is cantilevered by the fastening member, provided
with a supporting portion for connecting and supporting the head main body
on a side of a free end and has a first elastic portion on a side of a fastened end
and a second elastic portion on a side of the free end;
wherein the arm portion comprises a first contacting portion, and
10 the first contacting portion contacts the first elastic portion so that the
first elastic portion is deformed elastically when the head main body is located
away from the information recording medium.
13. The magnetic head device according to claim 12, wherein the arm
15 portion further comprises a second contacting portion, and the second
contacting portion contacts the second elastic portion or the head main body
so that the second elastic portion is deformed elastically when the head main
body is located away from the information recording medium.
- 20 14. The magnetic head device according to claim 13, wherein the second
contacting portion contacts the second elastic portion or the head main body
on the side of the free end of the suspension with respect to the supporting
portion when the head main body is located away from the information
recording medium.
- 25 15. The magnetic head device according to any of claims 11 to 13, wherein
the head main body does not protrude beyond the fastening member on an
opposite side of the information recording medium when the head main body
is located away from the information recording medium.
- 30 16. The magnetic head device according to claim 13, wherein the arm
portion further comprises a third contacting portion, and the third contacting
portion contacts the head main body on the side of the fastened end of the
suspension with respect to the supporting portion when the head main body is
35 located away from the information recording medium.
17. The magnetic head device according to claim 13 or 16, wherein the

head main body comprises a magnetic pole core, and a surface of the magnetic pole core opposing a recording surface of the information recording medium is substantially parallel to the recording surface when the head main body is located away from the information recording medium.

5

18. A recording/ reproducing apparatus comprising:

a converter for recording information on and/or reproducing information from an information recording medium;

10 a suspension system for keeping the converter at a desired distance and orientation with respect to the information recording medium;

a suspension system supporting member for supporting the suspension system; and

a fixed structure that is not displaced substantially with respect to an outer case;

15 wherein the fixed structure is arranged substantially in opposition to the information recording medium, and at least a part of the suspension system supporting member is arranged between the fixed structure and the information recording medium; and

20 the part of the suspension system supporting member contacts the fixed structure when the converter is spaced away from the information recording medium.

19. A recording/ reproducing apparatus comprising:

25 a converter for recording information on and/or reproducing information from an information recording medium;

a suspension system for keeping the converter at a desired distance and orientation with respect to the information recording medium; and

a suspension system supporting member for supporting the suspension system;

30 wherein a plurality of contacting regions are formed integrally with the converter so as to be substantially rigid; and

the contacting regions of the converter contact the suspension system supporting member when the converter is spaced away from the information recording medium.

35

20. A recording/ reproducing apparatus comprising:

a converter for recording information on and/or reproducing

information from an information recording medium;

a suspension system for keeping the converter at a desired distance and orientation with respect to the information recording medium;

5 a suspension system supporting member for supporting the suspension system; and

a fixed structure that is not displaced substantially with respect to an outer case;

10 wherein the fixed structure is arranged substantially in opposition to the information recording medium, and at least a part of the suspension system supporting member is arranged between the fixed structure and the information recording medium;

a plurality of contacting regions are formed integrally with the converter so as to be substantially rigid; and

15 the part of the suspension system supporting member contacts the fixed structure and the contacting regions of the converter contact the suspension system supporting member when the converter is spaced away from the information recording medium.

20 21. The recording/ reproducing apparatus according to claim 19 or 20, wherein a surface of the converter opposing the information recording medium is substantially in parallel to the information recording medium so when the converter is spaced away from the information recording medium so that the contacting regions contact the suspension system supporting member.

25 22. The recording/ reproducing apparatus according to claim 18 or 20, wherein a contacting portion of the suspension system supporting member that contacts the fixed structure is formed to have a convex surface.

30 23. The recording/ reproducing apparatus according to claim 18 or 20, wherein a region of the fixed structure that contacts the suspension system supporting member is formed to have a convex surface.

35 24. The recording/ reproducing apparatus according to claim 23, wherein a contacting portion of the suspension system supporting member that contacts the fixed structure is formed to have a substantially cylindrical surface, and a generating line of the substantially cylindrical surface is

substantially in parallel to the information recording medium and substantially in perpendicular to a longitudinal direction of the convex surface formed on the fixed structure.

5 25. The recording/ reproducing apparatus according to claim 18 or 20, wherein the suspension system supporting member and the fixed structure are substantially in point contact with each other.

10 26. The recording/ reproducing apparatus according to claim 18 or 20, comprising a vibration absorbing mechanism for damping an external vibration, wherein the fixed structure is held on a structure that is supported by the vibration absorbing mechanism.